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## NOTICE OF ALLOWANCE AND FEE(S) DUE

60668 7590 06/21/2010  
SAP / FINNEGAN, HENDERSON LLP  
901 NEW YORK AVENUE, NW  
WASHINGTON, DC 20001-4413

EXAMINER

CHEN, QING

ART UNIT

PAPER NUMBER

2191

DATE MAILED: 06/21/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,819	09/30/2003	Malte Wedel	09700.0059-00	3069

TITLE OF INVENTION: UNDOING USER ACTIONS IN A CLIENT PROGRAM

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	09/21/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE** OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

## HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to:** Mail **Mail Stop ISSUE FEE**  
**Commissioner for Patents**  
**P.O. Box 1450**  
**Alexandria, Virginia 22313-1450**  
 or Fax **(571)-273-2885**

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

60668 7590 06/21/2010

**SAP / FINNEGAN, HENDERSON LLP**  
**901 NEW YORK AVENUE, NW**  
**WASHINGTON, DC 20001-4413**

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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nonprovisional	NO	\$1510	\$300	\$0	\$1810	09/21/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHEN, QING	2191	717-101000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.  
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1  
 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2  
 3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee  
☐ Publication Fee (No small entity discount permitted)  
☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.  
☐ Payment by credit card. Form PTO-2038 is attached.  
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_ Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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2191

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## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 912 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 912 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

**Notice of Allowability****Application No.**

10/676,819

**Examiner**

Qing Chen

**Applicant(s)**

WEDEL ET AL.

**Art Unit**

2191

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on January 12, 2010.
2. ☒ The allowed claim(s) is/are 1,2,4-6 and 9-14, renumbered as 1-11.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_.

**DETAILED ACTION**

1. This Office action is in response to the amendment filed on January 12, 2010, entered by the RCE filed on April 6, 2010.
2. **Claims 1, 2, 4-6, and 9-14** are pending.
3. **Claims 1, 2, 4-6, and 9-14** have been amended.
4. **Claims 3, 7, and 8** has been canceled.
5. **Claims 1, 2, 4-6, and 9-14** are allowed, renumbered as 1-11.
6. The objections to Claims 1-14 are withdrawn in view of Applicant's amendments to the claims or cancellation of the claims.
7. The 35 U.S.C. § 112, second paragraph, rejections of Claims 9-14 are withdrawn in view of Applicant's amendments to the claims.

***Continued Examination Under 37 CFR 1.114***

8. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 12, 2010 has been entered.

***Examiner's Amendment***

9. An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to Applicant, an amendment may be filed as provided by 37 CFR

1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this Examiner's amendment was given in a telephone interview with James D. Stein (Reg. No. 63,782) on June 17, 2010.

The application has been amended as follows:

#### AMENDMENTS TO THE CLAIMS

In the "Amendments to the Claims" (received on 01/12/2010), please amend Claims 1, 2, 4-6, and 9-14 as follows:

1. (Currently Amended) A computer program product, tangibly embodied on a machine-readable storage device, the computer program product comprising instructions operable to cause a data processing apparatus to perform a method, the method comprising:

displaying a graphical user interface in a client program, the graphical user interface having a plurality of graphical user interface elements, the plurality of graphical user interface elements having data structures indicating a data state corresponding to data content of the plurality of graphical user interface elements and a view state corresponding to a visual configuration of the plurality of graphical user interface elements;

storing the data state and the view state of at least one of the plurality of graphical user interface elements as a first state for the at least one graphical user interface element in a data structure corresponding to the at least one graphical user interface element;

receiving user input from a user comprising a change to the data state and the view state of the at least one graphical user interface element;

updating the data state and the view state of the at least one graphical user interface element based on the received user input;

storing the updated data state and view state of the at least one graphical user interface element as a second state for the at least one graphical user interface element ~~control~~ in the data structure corresponding to the at least one graphical user interface element;

receiving undo scope setting information associated with the at least one graphical user interface element;

receiving user input from a user comprising a request to undo the change to the at least one graphical user interface element;

determining whether the undo scope setting information indicates the data state, the view state, or both the data state and the view state;

when the undo scope setting information is determined to indicate the data state, performing the undo request by restoring only the data state of the at least one graphical user interface element to reflect the first state;

when the undo scope setting information is determined to indicate the view state, performing the undo request by restoring only the view state of the at least one graphical user interface element to reflect the first state; and

when the undo scope setting information is determined to indicate both the data state and the view state, performing the undo operation by restoring both the data state and the view state for the at least one graphical user interface element to reflect the first state.

2. (Currently Amended) The computer program product of claim 1, wherein the plurality of graphical user interface elements includes one or more text field elements, radio button elements, table elements, tray elements, and menu elements.

4. (Currently Amended) The computer program product of claim 1, wherein the method further comprises:

receiving user input from a user comprising a request to redo the change to the at least one graphical user interface element; and

performing the redo request by restoring the data state and the view state of the at least one graphical user interface element to reflect the second state.

5. (Currently Amended) The computer program product of claim 1, wherein the received user input comprising the request to undo the change to the at least one graphical user interface element is received while input focus is not on the at least one graphical user interface element.

6. (Currently Amended) The computer program product of claim 1, wherein the undo scope setting information further indicates a second graphical user interface element of plurality of graphical user interface elements that is associated with the at least one graphical user interface element, and

the method further includes performing the undo request by restoring a state of the second graphical user interface element in addition to restoring the state of the at least one graphical user interface element.

9. (Currently Amended) A computer program product, tangibly embodied on a machine-readable storage device, the computer program product comprising instructions operable to cause a data processing apparatus to perform a method, the method comprising:

generating a plurality of data structures that store application data and associations between the application data and a plurality of graphical user interface elements associated with [[the]] an application, the plurality of graphical user interface elements having [[a]] data structures indicating a data state corresponding to data content of the plurality of graphical user interface elements and a view state corresponding to a visual configuration of the plurality of graphical user interface elements, wherein the plurality of graphical user interface elements are rendered based on the application data;

detecting that the data state and the view state of a first graphical user interface element of the plurality of graphical user interface elements has changed from an initial state to a new state;

recording the initial state of the first graphical user interface element in a data structure associated with the first graphical user interface element;

recording the new state of the first graphical user interface element in the data structure associated with the first graphical user interface element;

receiving undo scope setting information associated with the first graphical user interface element;

receiving user input from a user requesting that an undo operation be performed on the first graphical user interface element;

determining whether the undo scope setting information indicates the data state, the view state, or both the data state and the view state;

when the undo scope setting information indicates the data state, performing the undo operation by restoring only the data state of the first graphical user interface element to the first initial state;

when the undo scope setting information indicates the view state, performing the undo operation by restoring only the view state of the first graphical user interface element to the initial state; and

when the undo scope setting information indicates both the data state and the view state, restoring both the data state and the view state of the first graphical user interface element to the initial state.

10. (Currently Amended) The computer program product of claim 9, wherein the plurality of data structures comprise at least one data tree.

11. (Currently Amended) The computer program product of claim 9, wherein the plurality of data structures are stored on a client device.

12. (Currently Amended) The computer program product of claim 9, wherein the plurality of graphical user interface elements includes multiple types of graphical user interface elements.

13. (Currently Amended) The computer program product of claim 9, wherein the associations between the application data and the plurality of graphical user interface elements are defined by metadata.

14. (Currently Amended) An apparatus comprising:

means for displaying a graphical user interface in a client program, the graphical user interface having a plurality of graphical user interface elements, the plurality of graphical user interface elements having data structure structures indicating a data state corresponding to data content of the plurality of graphical user interface elements and a view state corresponding to a visual configuration of the plurality of graphical user interface elements;

means for storing, in a data structure associated with a first graphical user interface element of the plurality of graphical user interface elements, the data state and the view state of the first graphical user interface element as a first state for the first graphical user interface element;

means for receiving user input from a user comprising a change to the data state and the view state of the first graphical user interface element;

means for updating the changed data state and view state of the first graphical user interface element based on the received user input;

means for storing the updated data state and view state of the first graphical user interface element as a second state for the first graphical user interface element in the data structure associated with the first graphical user interface element;

means for receiving undo scope setting information associated with the first graphical user interface element;

means for receiving user input from a user comprising a request to undo the change to the first graphical user interface element;

means for determining whether the undo scope setting information indicates the data state, the view state, or both the data state and the view state;

means for, when it is determined that the undo scope setting information indicates the data state, performing the undo request by restoring only the data state of the first graphical user interface element to reflect the first state;

means for, when it is determined that the undo scope setting information indicates the view state, performing the undo request by restoring only the view state of the first graphical user interface element to reflect the first state; and

means for, when it is determined that the undo scope setting information indicates both the data state and the view state, performing the undo request by restoring both the data state and the view state of the first graphical user interface element to reflect the first state.

-- END OF AMENDMENT --

***Reasons for Allowance***

10. The following is an Examiner's statement of reasons for allowance:

The cited prior art taken alone or in combination fail to teach, in combination with the other claimed limitations, "determining whether the undo scope setting information indicates the data state, the view state, or both the data state and the view state; when the undo scope setting information is determined to indicate the data state, performing the undo request by restoring only the data state of the at least one graphical user interface element to reflect the first state; when the undo scope setting information is determined to indicate the view state, performing the undo request by restoring only the view state of the at least one graphical user interface element to reflect the first state; and when the undo scope setting information is determined to indicate both the data state and the view state, performing the undo operation by restoring both the data state and the view state for the at least one graphical user interface element to reflect the first state" as recited in independent Claim 1; and further fail to teach, in combination with the other claimed limitations, similarly-worded limitations recited in independent Claims 9 and 14.

The closest cited prior art, the combination of US 5,990,906 (hereinafter "Hudson") and US 6,377,964 (hereinafter "Sano"), teaches an Undo/Redo feature for a graphical programming system which minimizes the required data storage. However, the combination of Hudson and Sano fails to teach "determining whether the undo scope setting information indicates the data state, the view state, or both the data state and the view state; when the undo scope setting information is determined to indicate the data state, performing the undo request by restoring only the data state of the at least one graphical user interface element to reflect the first state; when the undo scope setting information is determined to indicate the view state, performing the

undo request by restoring only the view state of the at least one graphical user interface element to reflect the first state; and when the undo scope setting information is determined to indicate both the data state and the view state, performing the undo operation by restoring both the data state and the view state for the at least one graphical user interface element to reflect the first state” as recited in independent Claim 1; and further fails to teach similarly-worded limitations recited in independent Claims 9 and 14.

Any comments considered necessary by Applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Qing Chen whose telephone number is 571-270-1071. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 4:00 PM. The Examiner can also be reached on alternate Fridays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner’s supervisor, Wei Zhen, can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Q. C./

Examiner, Art Unit 2191

/Wei Y Zhen/

Supervisory Patent Examiner, Art Unit 2191